



Chambers's Journal

SIXTH SERIES.

'LLOYD'S' AND OVERDUE SHIPS.

SHE is overdue, and ninety per cent. has been paid on her.' The anxiety and suspense which such an announcement brings to those having friends on board the overdue vessel must be left to the imagination of the reader. It is the financial side only of this subject which the present article deals with.

Not within the present generation have so many vessels been announced as overdue as during the opening months of the present year. Commanders of ocean-going steamers and experienced travellers unite in testifying that the February gales in the Atlantic were something quite unprecedented. Ten or more steamers trading between this country and America have never been heard of since sailing, and are now missing vessels, having in all probability been worsted in an unequal contest with the elements; while others, more fortunate, arrived in a bruised and battered condition just when the last ray of hope was disappearing from the hearts of those interested in them.

The two steamers which perhaps excited the greatest interest were the Cunard steamer *Pavonia* and the Hamburg liner *Bulgaria*. Both are magnificent vessels and regular Atlantic traders, and both were seriously overdue. Indeed, as much as ninety-two pounds per cent. was reported as paid on the Hamburg steamer within an hour of the news reaching Lloyd's that she had arrived at the Azores; but the rate on the Cunarder never exceeded twenty-five guineas. The splendid record which the Cunard Company has for safety no doubt accounts for the reluctance which underwriters on their steamer showed in paying the very high rates usually asked to relieve them of their risks on vessels which are seriously overdue.

Gales in the Atlantic do not, however, exhaust themselves there; they create financial gales at Lloyd's. Not for a long period back has there been such excitement in that venerable institution as was recently seen. There is a room in

Lloyd's known to the initiated as the 'Chamber of Horrors,' in which are posted up from time to time the names of vessels overdue, missing, and wrecked. Of late this list has been terribly heavy. Underwriters eagerly scan the lists as they are posted up, and then as eagerly consult their risk-book to see whether or not they are interested in the casualty announced; and their faces generally tell the tale whether they have been fortunate or the reverse.

Owing to the exceptionally large number of vessels announced as overdue lately, quite an unusual amount of reinsurance has been effected in Lloyd's. The 'Doctors' have been kept very busy. The 'Doctor' is the familiar name given to a broker whose special business it is to insure overdue vessels. When an underwriter who has taken a risk on a vessel in the ordinary course sees her noted as overdue, he has only two courses open to him. He may either stick to his risk and trust to the vessel arriving, or he may get rid of his risk by reinsurance. In the latter case he calls in the 'Doctor' and tells him to reinsure his line at a certain limit—say forty, sixty, eighty, or even ninety per cent., according as the vessel is looked on as only moderately or seriously overdue. Underwriters can usually be found in Lloyd's who will accept any kind of risk, provided they are paid what they consider an adequate premium; and so the 'Doctor' soon comes back to his principal, and tells him he has been able to get the risk transferred to another underwriter. The original underwriter then awaits the issue of events. In due time the vessel reinsured as an 'overdue' either is lost or arrives. In the former case the original underwriter pays the loss to his assured, and then claims the amount from the underwriter with whom he reinsured his risk. Should the vessel arrive, however, he has lost the amount he paid to reinsure, which amount is a clear gain to the underwriter with whom he reinsured.

The arrival of an overdue vessel is notified at Lloyd's by the ringing of the 'Big Bell.' This

bell has a remarkable history. It belonged to H.M.S. *Lutine*, which was wrecked just one hundred years ago (in 1799). She sailed from Yarmouth with a large amount of specie on board, and was wrecked on the very night of her sailing, near the Zuider Zee. The specie was insured at Lloyd's, and the underwriters paid the loss, hoping to recoup themselves to some extent by the recovery of the specie from the wreck. This country was then at war with Holland, and the Dutch Government claimed the whole as a prize. Subsequently, however, the King of the Netherlands agreed to give up to Lloyd's the portion of the salvage claimed by him, which was one-half.

Some fifty years ago specie to the value of fifty thousand pounds was recovered from the *Lutine*, and further amounts at later dates. The ship's bell was part of the salvage, and now occupies a prominent position in the underwriters' room at Lloyd's, and is used, as already stated, to announce the arrival of overdue vessels. The ringing of the

'Big Bell,' as it is called, is a moment of keen excitement in Lloyd's. All ears are open, and all eyes turned to the end of the room, where in a kind of pulpit stands the crier, resplendent in red gown, who, having rung the bell, announces in stentorian tones the arrival of the 'overdue.' Meantime, the underwriters who have stuck to their lines and not reinsured are very happy; others who had given her up for lost and paid perhaps ninety per cent. to reinsure their amounts may be excused if they are not so jubilant. The ringing of the 'Big Bell' has brought home to them the fact that they have paid what is within a few pounds of a *total loss* on a vessel *which has arrived*. In a few moments the arrival of the 'overdue' is flashed all over the country, and it is pleasant to come away from Lloyd's, where, as we have seen, the intelligence produces somewhat mixed feelings, and to picture to ourselves the many homes in which the news will be received as 'tidings of great joy.'

THE LOST CAUSE.

CHAPTER V.—A QUESTION OF HONOUR.



CHARLES EDWARD, whom we called the Pretender, and quiet-living people the Young Chevalier: there could be no doubt that the man before me was that unfortunate prince.

In truth, I had none. Had confirmation been needed, I had it in the scene in which he had taken part at the Dower-house, and which forbade the idea that I might be misled by a chance resemblance. So great was the shock of recognition, however, that a minute or two had passed before I ventured another look. Now he was talking earnestly to my cousin, who listened with downcast eyes; he was well in my view as he leaned against the rail of the little bridge; and you may believe that I missed no detail of his appearance. But, above all, 'twas his face that held me.

More than once, in London and in Yorkshire, I had sat at the tables of Tory relations who had been 'out' in the '45; and there, when the wine had routed discretion, I had seen the tears welling to the eyes of these hardened old rebels as they described the gallant youth who had led them in fight, and marched joyously at their head through the privations of a winter campaign. And from all I had heard the one testimony: that Charles Edward was the most handsome and gracious prince of his kingly line.

Now I looked upon the same countenance with my own eyes. Yet 'twas not quite the same. The features were there, but the setting was

fuller and less delicate; and misfortune and care—perhaps other causes not so reputable—had left their marks in deeply-drawn lines. Nevertheless, the face had still a certain stamp of nobility—dignity it could never lack—and one could imagine the charm that had once inspired an army with a love and devotion which flouted death itself. I was a Whig, and a servant of King George, and for a minute even I could not behold him unmoved.

But only for a minute. Then, as the significance of his presence on English ground forced itself upon me, my brain became clear. I had suspected a conspiracy: had I stumbled upon the kernel of it?

In any event, my present duty seemed plain. I did not move. Screened by the friendly holly-bush, I could watch the scene without much fear of discovery. I offer no excuse for so doing, and, indeed, I learnt nothing more. The pair conversed together for some ten minutes, the talking, for the most part, being apparently on the side of the Chevalier. And, in the meantime, my ideas were taking shape.

I must mention one fleeting thought (not altogether to my credit, it might be) that had already crossed my mind. Trying to guess a reason for the meeting of the two, I had a suspicion that brought the blood to my face. The Prince's character was a byword; he was, if all accounts were true, a master in the arts of intrigue; and he had an ancestral example how best to relieve the tedium of an enforced concealment. But the suspicion rose merely to be

dismissed. My momentary doubt did not concern Kitty. It concerned Charles alone; and, from my observation, his demeanour was of the most respectful.

The interview, whatever its object, was not prolonged beyond the ten minutes. Charles held my cousin's hand for an instant, bowed deeply, and so turned away; and she, on her part, remained standing on the bridge until he had climbed the opposite bank. At the top he doffed his hat again, and then disappeared among the trees in the direction of the Hall.

Kitty had begun to retrace her steps, and was coming slowly towards me before I was reminded of my own position. Hitherto I had not considered what my course should be. Now, thinking swiftly, I perceived that there was but one. The new situation must be faced sooner or later. Better, then, that it should be faced at once.

Yet 'twas with no light heart that I stepped forth from my hiding-place. She was within a few yards; and I cannot describe—still less can I ever forget—the look that leaped into her eyes as they fell upon me.

'You—here?' she cried.

'Yes,' I returned simply. I could say no more; it never struck me to explain or to justify my presence. Somehow it seemed needless.

'Oh!' For a moment she stood silent, and then: 'You have seen—everything?'

And again I assented.

'You recognised the—you recognised him?'

The question scarce required an answer, for she must have gathered from my countenance that I had done so—and more. Shuddering a little, as if she were cold, she walked on.

'We cannot talk here,' said she. 'Let us go back to the house.'

Not a word was spoken betwixt us as we crossed the garden; but, stealing a glance, I saw that her brows were drawn in thought, and her little mouth set in a manner that reminded me curiously of Sir Charles. My own brain was not idle. Fate had brought me to the cross-roads, and in the next minute I must choose my path. Perhaps I should not have hesitated. The safety of the State came first; all other considerations must give way to that; and, knowing what I did—who lay hidden at Langbridge Hall, and what that fact meant—I could doubt no longer that a plot more dangerous and matured than I had suspected was in existence. And, knowing that, I still wavered. The struggle was keen—for Kitty was beside me—but it was soon over. Before we reached the house I had made up my mind.

She led me into an empty room opposite to that in which I had left Mrs Herbert, and closed the door. Then she came straight to the point.

'Well, what are you going to do?' she asked quietly.

'There is only one thing,' said I in the same tone. 'I am deeply sorry, cousin, but—I fear I must ask you to direct me to the nearest inn.'

'The nearest inn! But'—

'I must get a horse to carry me to Bath to-night.'

'To Bath?' Her voice grew harder. 'Then you mean to betray the Prince, Mr Holroyd—and us?'

'Not that!' I cried. 'I wasn't even thinking of the Prince—only that some deep scheme is afoot, and I should fail in my duty if I did not give warning. I can never repay my debt to Sir Charles and you all; and you will believe me that nothing'—

But here her enforced calmness broke down. 'Yet you would not scruple to betray us to my Lord Kynaston?' she interrupted me. 'Is this your honour, cousin? Oh! I am not speaking of our claims on your gratitude. But your promises to me—surely they are not so distant that you have forgotten them?'

'Not so, and you may rest content that I will keep them,' I hastened to say, with more eagerness than discretion.

'In the letter—only to break them in the spirit! 'Twill be a notable service!'

'Your father need not appear in this affair at all'—

'And leave his comrades and the Prince to the tender mercies of—my Lord Kynaston? I am afraid he has already settled that question! He might prefer even the worst to the protection of his good cousin—under these circumstances.' Then her tone changed again. 'But must you go?' she asked, pleading with her eyes. 'After all, we have treated you not ill. Think, cousin! It means the undoing of brave men—perhaps their capture and death. Is there no other way?'

'Would to Heaven there were!' I cried, with all my heart; for truly her scorn was easier to bear than this. But I could see no other way for me.

'Then you will go?'

'I am the king's servant; and 'twould be the blackest treason to do otherwise—to hide what I have learnt to-day.'

'So there is no more to be said?' she asked, turning hopelessly away. 'I am only a weak girl, and cannot keep you here against your will. For the rest—well, it may be you are in the right. And you have to remember your own advancement.'

But this was more than I could stand. 'As God is my judge, I have not thought of myself for a moment!' I burst out. 'You may think hardly of me, cousin Kitty—you cannot think that I would betray my friends to benefit myself. It is no question of persons. You would do much for your cause?'

'I would willingly die for it,' said she softly.

'There is no sacrifice you wouldn't make for it,' I continued. 'Well, my cause is not less dear to me, and how can I desert it when a great danger may threaten it—a danger known to me alone? 'Tis bitter hard for both of us—for me, perhaps you cannot understand how hard. But I dare not stand aside. In honour I must go on.'

Kitty's eyes dropped as I proceeded, and I perceived that my appeal was not in vain.

'Forgive me, cousin George,' she said. 'I should not have spoken in that way; but it was all so difficult; and—oh!' she cried, her voice breaking, 'there is nobody to tell me if I am doing right. If only my father were here!'

Frankly, I could not echo the wish; for the meaning of past events was now clearer to me, and I was beginning to suspect that Sir Charles had laid and baited a pretty trap to detain me at the Dower-house as long as it might suit his purposes. And for other reasons, which you may guess, I was not too anxious to meet him just then.

'At the least, will you not await his return?' Kitty went on. 'He cannot be long, and surely an hour or two matters little.'

I shook my head, albeit most reluctantly, and she said no more. The consciousness of her failure showed itself in a pathetic droop of her mouth, and I hastily averted my eyes. Never had I been so hateful to myself, and I felt doubly so when I heard a little sob, and, looking again, saw the tears glistening on her lashes. For a moment, as she strove bravely to control her emotion, her sweet face came betwixt me and my duty, and I had a mad impulse to throw honour aside and choose the easier path. Then I took her hands in mine.

'Kitty, believe that I would give the world to save you this pain!' I cried.

'I am very foolish,' she said, trying to smile. 'But I was thinking of my father—and the others. They have no warning, and what will happen'—

'I was just about to speak of that,' I said; and, indeed, I had not intended to depart until I had made some arrangement to ensure the safety of my friends. 'Whatever befalls, your father must not come to grief through me.'

She withdrew her hands, but the colour stole back to her cheek as I spoke, and there was a new light in her eyes. After a minute she glanced at me shyly.

'I have a plan—if I durst ask the favour.'

'I am trying to find one,' said I.

'I can scarce expect you to grant it,' she continued quickly—'to take a letter to Bath for me, and promise to deliver it before you see Lord Kynaston. More, to say or do nothing in this matter until to-morrow. Is it too much, cousin? I cannot tell what my father will

do; but at the worst 'twill give us time to run away.'

Considering, I convinced myself that the request was not unreasonable—that, at least, not much further mischief could be accomplished in a few hours. By our inclinations agreeing, the result was not long in doubt. So:

'I will do it, Kitty—for your sake,' I promised.

She reddened a little. 'Be sure I can never forget your kindness, cousin,' she replied, and then ran on: 'Now you will want a horse, and if you can wait—I have the call of Mr Kennett's stables, and will send to the Hall for one at once. 'Twill be quicker—the nearest inn is three miles away. Meanwhile, you have your excuses to make to Mrs Herbert.'

Then she went off; and, the die being cast, I crossed the hall and woke Mrs Herbert to hear my news. My pretext was that I felt much better, and so had prevailed upon Miss Kitty to borrow a horse to take me to Bath. The interval was pleasantly spent in combating the good lady's endeavours to change my purpose.

At last, after nearly half-an-hour, the summons came. My cousin had been as good as her word: an excellent animal was waiting outside, under charge of a grinning hostler. At the door she handed me the letter. It had this address: 'To Thomas Kennett, Esquire of Langbridge, at the Pelican Inn, Bath.'

'I cannot be so certain of finding my father,' she explained, as if divining my thoughts.

'You may trust me to see it safe, cousin,' said I.

Then our farewells were spoken. That she did not offer me her cheek as we parted was doubtless due to her father's absence, and I had no fancy to claim it as a cousinly right.

'And the direction?' I asked, having mounted.

'Hold to the left after leaving the avenue, and a quarter of a mile will bring you to the Bath road. Good-bye, cousin! Perhaps we may meet again some time—when the fates are kinder!'

As I rode away I vowed that it should not be my blame if we did not, and at no distant date.

Six o'clock had struck and 'twas long dark when I pulled up in the courtyard of the Pelican Inn at Bath, after an uneventful but most tiring ride. Mr Kennett was not within, but had been there lately; mine host opined that he might be found at the Pump-room. Now my chief desire was to get the disagreeable part of my task over as speedily as might be; and so, having delivered the horse to the landlord's care and attended to my toilet, I betook myself forthwith, under the guidance of a link-boy, to the famous meeting-place of the Bath quality.

There a new difficulty hindered me. The ushers, looking askance at my riding-costume,

were reluctant to admit me; and not until I had exhausted argument, and (as the last resource) mentioned my office, was I permitted to pass those jealously guarded portals. Entering, I was taken in charge by one with the manner of a grand-duke.

'This way, if you please,' said he. 'You would wish my Lord Kynaston to be informed, sir? His lordship has just come, and as you are not in dress, perhaps you would prefer to await him in an anteroom?'

Doubtless he believed that my business concerned the State, and I could do nought but curse him for an officious fool, and follow. But now my good luck was to have a turn; for, crossing the vestibule, the first man on whom I clapped eyes was Kennett himself, walking towards the door with every mark of haste and perturbation in his demeanour. Seeing me, he stopped as if shot.

'You?' he cried.

'I have been looking for you, sir,' said I. 'I am just arrived from Langbridge, and have a message for you.'

'From Langbridge?' he repeated, with a glance that (to my mind) was not free of apprehension. 'I am in some hurry'—

'It need not detain you a minute.'

He turned with me at once, but spoke not another word until the usher had shown us into an empty room and there left us alone. For a moment the only sound was the music of a minuet that came faintly to our ears. Then:

'Well, what the devil is it?' he demanded.

I had cause to resent this tone, but I saw that, for some reason (which I hoped was the miscarriage of his plans), he was in the vilest temper, and so contented myself with pulling out Kitty's letter. He seized upon it without ceremony.

'Ah! poor Kitty Hollingworth,' cried he, tearing it open.

I watched him narrowly as he scanned the contents; and although they seemed to be of the briefest, he must have read them over five or six times. From his face—and be sure I missed not a shade of expression—the news was far from pleasing. At length, with a gesture of anger, he crushed the paper in his palm.

'This too!' he muttered, having apparently

forgotten me. 'Good God! what will Sir Charles say to it? If I can only catch him before that confounded'—

Then he recollected himself, and his hand wandered to his sword-hilt as his eyes caught mine.

'Sir, you have my compliments,' said he. 'A nice bit of work, faith! May I ask what you intend now?'

'Your pardon, but that is my affair,' I returned, bowing.

'And not hard to guess. You will seek out Kynaston—and, Gad! he is to be congratulated on an apt pupil!'

'Oh! you have still a few hours,' said I, nettled by his gibes. 'Mistress Hollingworth has my word that I shall say nothing of your little plan until to-morrow.'

'And then?'

'That you may also guess.'

He took a step towards me, still gripping his hilt. 'So you really expect us to depend upon your word, sir?' he asked.

I bowed again.

'After our former meeting—and your declaration? And now, after all, you have proved yourself the spy and informer! Sir, I will ask to be excused.'

Plainly he was bent on forcing a quarrel, but had overlooked one small circumstance. Otherwise, to be honest, his task would not have been difficult. Even as it was, I could scarce control myself to reply calmly:

'There is but one way to answer a lie such as that, sir. Unluckily, as you are aware, my sword-arm is useless for the moment.'

'I beg you to believe that I had forgotten it,' he said, reddening somewhat. 'Nevertheless, I am ready to repeat the words whenever it may suit your convenience.'

'And I, not less ready to meet them. Meanwhile'—

Here, warned by a noise at the door, I glanced round, to see, standing just within it, the dapper figure of Lord Kynaston! There was a twinkle in his keen eyes as they travelled from one to other of us, and I wondered how much of our conversation he had heard.

(To be continued.)

THE GOLDFIELDS OF SIBERIA.



OLD is found sporadically over the greater part of all Siberia in larger or smaller quantities. East of the Urals gold is worked along the basins of the Obi, the Yenisei, and the Angara Rivers—all west of

Lake Baikal. East of that lake the principal gold-workings are at Merchinsk on the Amur

River, or far away to the north along the beds of the streams that water the territory between the Amur and the Lena Rivers.

The whole industry of gold-getting is carefully watched and regulated by the Russian Government, and no gold produced can be legally disposed of but to the Government. According to the present regulations, the gold

recovered is sent to one of the Government proof-offices, where it is assayed and purchased at a fixed rate, a certain percentage being withheld to cover the cost of manipulation. For Eastern Siberia the chief centre is now Irkutsk; but it is intended shortly to establish proof-offices at more convenient centres for the gold brought from the Maritime Province—probably at Blagovestchensk and Khabarovsk, which will save the great cost of carriage to such a distant town as Irkutsk.

The gold found in these districts is all alluvial, and, in spite of the most primitive means of washing, returns a very fair yield. The want of enterprise which the Russian shows in most undertakings is very conspicuous here. Though gold has been worked for years within a couple of days' journey of the port of Nikolaevsk, at the mouth of the Amur River, there are still practically no roads of any kind to the gold-workings; and the cost of supplies of all kinds—for the country is a desert—is, of course, exceedingly high. The want of communications also prevents the importation of the newest machinery, although the Russian Government recently passed a law to allow gold-working machinery to be admitted duty-free into all parts of the empire. This privilege has given a slight impulse already to the workings on the Obi and Yenisei; but in the Far East matters continue the same. In fact, unless gold can be found very near to the banks of a navigable stream, it does not at present pay to work it in the Maritime Province of Siberia. Some idea of the easy-going system of working and the inadequate supervision over the workmen may be formed from the fact that although nuggets of anything up to half a pound troy-weight are by no means infrequent finds, yet they never come into the hands of the owners of the workings unless by the merest chance, and in valuing a mine are left out of account even when known to occur.

The workmen available are all either Buriats, a Mongolian race native to that part of Asia; Koreans, who are found in large numbers all over the Russian Far East; or, best of all, Chinese. These labourers are all very cheap in regard to the question of wages; but, for the reason stated above, their maintenance is a large item in the cost of working. Of genuine Russians there appear to be hardly any employed in the gold-mines of the Far East, chiefly, no doubt, because the only ones available are either time-expired convicts or criminals sent to the far-distant parts of Siberia for residence. The lack of energy of the Russian, and above all his affection for frequent high holidays and the accompanying big drink, which is almost obligatory for all Russians below the level of the educated classes—a very small exception, this—make him a very unprofitable hand, apart from the suspicion of his honesty and the fear lest his antecedents may

not have taught him more than is desirable as to the means of disposing of contraband gold.

In spite of the most stringent laws on the subject, there is an enormous business done all over Siberia in gold, both dust and, especially, nuggets stolen from the workings. It is a criminal offence to be found in possession of gold; but as so large a proportion of the population of Siberia consists of those sent there for punishment, and the only further punishment they have to fear is deportation to some yet more distant region of the same barren and joyless land, the deterrent is by no means so formidable as a mere perusal of the awful menaces of the statutes at first sight seems to convey. Moreover, the successful dealer in stolen gold rarely fails to escape the penalties of his offences, even when caught red-handed. The Russian official even in Russia proper is seldom altogether unreasonable; and in Siberia, where the pregnant saying of the dishonest *chinovnik*, 'It's a long way to Peter'—that is, St Petersburg—is especially significant, the official is 'good-natured' in the extreme; and a substitute can always be bought to accept unpleasant responsibilities. A great part of this gold is conveyed over the Chinese frontier—that is, across the river Amur, which is the sole defence of the frontier against smuggling from both sides—and finds a ready sale at ruinous sacrifices in exchange for a certain fiery Chinese *vodka*. The valuable properties of this spirit, much esteemed by Russian and native alike, are that it gives the consumer the beatitude of intoxication one day, and on the next he can attain the same exalted state by the cheap expedient of drinking water.

The Russian Government has always shown itself very jealous in the matter of admitting the foreigner to undertakings which its own subjects have never proved equal to working as they would be worked by any other people in the world. The laws forbid the foreigner to hold real property in all those parts of Russia where the foreigner alone would be likely to covet such a privilege; and it is only by making exceptions in favour of individuals that such undertakings as the English exploitation of the Baku naphtha-wells are made possible, and then only with many safeguarding clauses, one of which leaves the Government the right to stop everything at a blow without warning or reason given; the matter of compensation is left to be fought out. In the Far East the same strict rules against the foreigner apply; but some three years ago a special clause was added to the law permitting foreign subjects to petition the Department of Agriculture and State Domains for leave to purchase land and work coal, gold, or other minerals. The explanation given *officially* for this addition to the law is highly instructive; it is that 'Russians have not shown themselves able in the past to work the mineral wealth of this country,

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and there is no hope of their doing so in the future.' Permission, therefore, may be obtained by persons not Russian subjects, of whom the Government approves, to own land and work gold, &c. The old law, which even prevented the formation of Russian joint-stock companies in which any foreigner held shares, has thus relaxed much of its stringency; and advantage is already being taken of the opportunities afforded to the non-Russian subject.

In prospecting for gold the regulations ordain that the finder shall at once plant a post on the spot chosen by him, and inform the Government Inspector, who proceeds to the spot and surveys it, marking out the finder's claim to a limited extent on each side of his post. In the case of the banks of a river, both sides may be secured by one finder; but no other claim is allowed to him within so many versts up or down the river on

either side of his first find. The latter difficulty is got over, of course, by entering the second claim in the name of a friend or even a wife; so important to the Russian is the mere letter of the law. In this manner it is possible for one owner to secure actually, though not nominally, any number of miles of gold-bearing stream, his rights extending back for, in the first instance, some half-mile from the banks; the limit of length for each separate claim being five versts, or over three miles. These are liberal figures; and, added to the other considerations mentioned above, sufficiently serve to show in whose hands the gold-workings of Eastern Siberia are. There is no such thing in Russia as the 'gold-diggings fever;' and even on the money market comparatively little is done in gold-mining shares, unless it be in the case of companies which have originated outside Russia.

THE MONTH: SCIENCE AND ARTS.

A SHIP'S RUDDER-RECORDER.



AT a time when collisions and other accidents to ships are far more numerous than they should be, the invention by Mr J. E. Liardet of a helm-recorder—which, actuated by the rudder, gives a history of the course steered, and the various deviations from that course—will meet with the attention which it deserves. The record is made by a pencil on a paper band which moves on a drum actuated by clockwork, and it will not only be useful in clearing up disputed points in case of collision, but it will also afford evidence of the competency of the man at the wheel. Some steersmen will keep to a straight course far better than others, and this means a saving of time and—in the case of a steamship—of fuel. The new apparatus will enable a captain to pick out the best men for work at the wheel.

AN INTERESTING CENTENARY.

The Royal Institution of Great Britain has been celebrating its centenary by a banquet and by commemoration lectures. This noble institution was founded by Benjamin Thompson, afterwards Count Rumford, its scheme being much after the pattern of that pursued by the present Society of Arts—that is, an endeavour to bring science and art into closer contact. With the advent of Davy as manager in 1802 the original programme was dropped, and the Institution became what it is now, a place where lectures are delivered, and where experimental researches in pure science are conducted. It was in the theatre here that Davy first showed the electric light between points of carbon. It was here, in 1812, that Faraday, a young bookseller's apprentice, attended some of

Davy's lectures and afterwards ventured to send his notes of them to the great man. Davy took a fancy to the lad, and offered him the post of assistant in the laboratory. What great things Faraday did for science most people know. It was here that he discovered that close connection between a magnet and an electric current which was the germ which finally gave us the modern dynamo and all its wonders. Tyndall, who followed Davy, kept up the reputation of the Institution by his lectures and scientific researches; and he has been worthily followed by Lord Rayleigh, Professor Dewar, Professor Ray Lankester, and others who are now at the helm of this wonderful ship of science in Albemarle Street, London.

BALLOONS IN WARFARE.

Experiments recently conducted by the Balloon Department at Aldershot point to the possibility of a new horror being added to modern warfare. The idea is to drop from balloons heavy charges of high explosives into fortified works beneath them, so as to annihilate the garrison and dislodge the guns at one fearful operation. The suggestion does not seem to be altogether new, for it has been foreshadowed in some of those lurid novels now so much in vogue, in which scientific marvels of the future are dealt with as if they were realities of the present. The accounts of the experiments in question are somewhat vague—perhaps they are purposely so; but what we gather from them is that it is found possible to send up small balloons carrying explosive charges, and that these charges can be released from a distant point by a modified application of Marconi's wireless telegraphy apparatus. It is stated that the explosives can be so dropped with

wonderful precision, into a space of little over an acre in area, from great distances. We are glad to note that at the Hague conference this method of warfare has been forbidden, at least, for five years.

A NEW PRINTING METHOD.

Although the new process to be described has been called 'an improvement in lithography,' we hesitate to adopt such a title, because it does not employ a stone, but a zinc plate. But the method is lithographic in its nature, seeing that the parts of the metal upon which the ink is not required to act are rendered antagonistic by a chemical application just in the same way that water is made to resist the action of the greasy ink in the usual lithographic process. The nature of the chemical used is at present a secret; but it was discovered by one of those fortunate accidents which have so often come to the aid of observant men. The invention is that of Mr G. R. Hildyard; it can be carried out on an ordinary fast-running letterpress machine; and, as colour-work can be effectively dealt with by the new method, it promises to be of great value. Such a process, in which neither water, gum, nor acid is employed, to say nothing of the saving of labour involved in preparing the stones for the press, appears to offer many advantages.

A NEW CAB-FARE METER.

A fare-meter that claims to possess several improvements upon the taximeter, which has already been noticed in our columns, has been recently introduced. The apparatus has two dials which are inside the vehicle, one of which shows the distance run in miles and yards, and the other the time which has elapsed since the hiring of the cab, both starting from zero when the hirer enters the vehicle. In addition, there are secret registers by which the proprietor can tell the exact distance run by the cab during the day, so as to check the driver's accounts. The connection between the wheel and the mechanism is by a steel wire which receives a 'to-and-fro' motion from a cam on the hub, and works a ratchet-wheel in the fare-meter.

AIR LIQUEFACTION.

We have recently had an opportunity of seeing at the works of Brin's Oxygen Company, Westminster, the apparatus invented by Dr Hampson for the production of liquid air. The small bulk of the apparatus at once excites surprise, for it occupies only two square feet of floor room, so compact is it in its arrangements. Its principal part is a coiled mass of thin copper tubing, through which the air to be liquefied, after being robbed of its moisture and carbonic acid, circulates under pressure from an attached pump; or the air may be driven direct through the apparatus after having been compressed in a portable cylinder. At the lower end of the magazine of

coiled tubing the air is allowed to escape through a valve, and thereupon it immediately expands with the development of great cold; and this cooled air is directed upwards over the tubing, so that the oncoming air is rendered colder and colder until a point is reached when it can no longer retain the aeriform condition, and it accumulates in a vacuum jacketed glass receiver below in the form of a pale-blue liquid. Under the most favourable conditions the air is seen to commence liquefaction five minutes after the compressing pump is put into action. Dr Hampson was, we believe, the first to apply this self-intensive principle—without any aid from other methods of refrigeration—to the liquefaction of gases; and it is due to this principle that the reduction of hydrogen to the liquid state became possible.

PRINTING WITHOUT INK.

The march of improvement has long made it possible to make bricks without straw; but to carry on the work of the printing-press without the employment of printing-ink would seem to be a far more difficult thing to achieve. This apparently impossible task has been conquered by the Electrical Inkless Printing Syndicate of Brixton, London, at whose premises we recently saw the new system in operation. It is, however, not new in principle, for so long ago as 1845 Bain, in his electro-chemical telegraph, adopted the same means for recording his message upon paper. The paper is prepared with a chemical solution, such as nitrate of manganese; and when this, in a damp condition, is run between two metallic surfaces, and a current of electricity is passed from one to the other, the chemical is decomposed and the paper is stained. In the new method of printing, paper is used which has been chemically treated during its manufacture, which can be done without additional cost to the material; and this paper, supported on a metallic surface, receives pressure from the type, while at the same time a current of electricity takes the place of ink. Any existing printing-machine, by the removal of its inking arrangements, and connection with a source of electricity, can be readily converted to the new system, while its output is increased and all cost of ink and rollers saved. The invention appears to have a wide future before it, although it is not likely to prove a rival to high-class printing.

SUBTERRANEAN TRAMWAYS.

A proposal is before the London County Council to relieve the enormous street traffic in the Metropolis by constructing electric tramways just below the surface of the pavements, ready access to which could be obtained at nearly every street corner, in which respect the scheme would differ altogether from the deep-laid electric railways already in use. The trams would run on a double

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line of rails, and would occupy subways beneath the chief thoroughfares, such as are now actually provided in the newer streets of London. One great advantage of the system would be that such subways would, besides furnishing a passage for the electric cars, afford accommodation for telephone and telegraph wires, besides gas and water pipes, thus avoiding the constant upturning of the thoroughfares which at present is such a standing disgrace to our municipal arrangements. It is said that such light underground tramways already exist abroad, notably at Boston and at Budapest, and that they are paying concerns. The scheme for London comprises in the first case a line from Westminster to the Bank, a route which at present cannot be traversed above ground without constant vexatious stoppages owing to the congested traffic of the thoroughfares.

ALUMINIUM.

The beautiful white metal aluminium, which, on account of its extreme lightness and cheapness, has within recent years come into such common use, is vulgarly supposed to be free from that tendency to be acted upon by acids which is common to most other metals. Referring to this popular belief, Mr A. Witte, in a recent communication to the Paris Academy of Sciences, has pointed out that the resistance of aluminium to acid influences is due to the presence on its surface of an impervious layer of alumina. When this is removed, as it can be by a solution of common salt and acetic acid, the metal is acted upon very rapidly. A solution of sea-salt will act upon the metal if oxygen and carbonic acid are present at the same time; thus a plate of aluminium, after immersion in sea-water, will be corroded if it is exposed to the air without being cleaned, and the corrosion will become worse and worse. Those in possession of articles made of aluminium, such as field-glasses and the like, should take warning from these facts.

A GLORIFICATION OF THE VINE.

Among the many other extraordinary sights that are in store for visitors to the famous French Exhibition next year, one of the most remarkable will be a panorama relating the history of the vine from the earliest biblical days down to the present time. This panorama, which will be 4000 feet long, will form a background to a number of constructions of different historical periods, arranged into streets, according to the epoch they represent. These buildings will be, in reality, restaurants, cafés, and wine-bars, where the different wines from all the countries will be sold by pretty girls in the different costumes of their respective nations. The streets will be bordered with growing vines, and will be lighted by electric lights, arranged inside bunches of grapes. There are to be concerts organised, in

which the songs are all to be in honour of the vine, and representations of vintage scenes; both ancient and modern, will be constantly given—in short, this particular branch of the Exhibition will undoubtedly be a glorification of the vine in all places and all countries. It will occupy 40,000 feet of ground, and will certainly have the merit of novelty.

PILE-DRIVING.

The power of water under pressure has often been applied to pile-driving; but a simple application of the principle as described in the instructions to technical works for the Russian Engineer Corps is of interest. The pile to be driven is furnished on two opposite sides with longitudinal grooves, of sufficient capacity to receive iron gas-pipes, which may be of one and a half inch diameter, but contracted at the lower end like a hose-pipe, and turned towards the iron-shod point of the pile. The upper ends of these pipes are connected by rubber tubing with a force-pump, so that water under pressure, about seventy pounds to the square inch, can be projected into the soil at the base of the pile. It is said that under this treatment a pile will sink into the earth far more quickly than if driven in by the ordinary method. The pipes can be removed so as to do duty again and again as soon as the pile has sunk to the required depth.

BIRDS' NESTS.

In China they make soup of birds' nests, and the 'edible' nest is quite a feature of mandarin cookery. These nests must be very different from some which were exhibited at a recent meeting of the British Ornithologists' Club, where a heron's nest was shown built almost entirely of wire such as is used in reaping-machines to bind the sheaves. A member is in possession of a turtle-dove's nest made entirely of wire, and some Indian crows have discovered that the wire from soda-water bottles makes excellent nesting material. The nest of a spotted fly-catcher was shown, built to a great extent of wax vestas and with the paper of cigarette-ends embedded in the sides; while the wrappings of champagne bottles, evidently left by a picnic party, were found in a moorhen's nest. To illustrate the not very common practice of birds building inside the nests of other birds, the nest of a wagtail built inside the old nest of a blackbird was exhibited, as well as a robin's nest built inside the old nest of a thrush. In this last case there was a cuckoo's egg inside the robin's nest, so that the original structure had served three different species. A woodchat's nest built entirely of flowers lent a pleasing variety to the show; while another covered with confetti showed that the builder must have been a participant in some gay and festive occasion or other. Not only in selecting materials for their nests, but in choosing sites for them, birds would

appear to have strange fancies. They are proverbially fond of churches; and recently a pair of robins have ensigned themselves in the organ-pipes of a church at Bournemouth, while another pair have nested, laid, and hatched on a book-ledge in another country church. Even scare-crows have not deterred them, and the cannon's mouth has lent a ready entrance to 'Miss Wren,' whose nest was found at the farther end of a disused gun, at the bottom of the touch-hole. Railway carriages and signal-posts have equally attracted them; and nests have even been found in the hollows underneath the rails, all the operations of maternity being carried on while the trains thundered above. Wayside letter-boxes have frequently afforded shelter to the hard-pressed but confiding tits, who have found little difficulty in squeezing themselves through the aperture intended to exclude the predatory hand of the tramp. Even the more prosaic sites chosen by some birds for their nests show a curious disregard of the fitness of things, and a contempt of danger which often leads to disastrous consequences. But they are soon consoled for the loss of their homes, and bird families are no sooner broken up than they are constituted again. On the other hand, some birds will return to the same nest year after year.

A ROLLER AND MOWER COMBINED.

What seems to be a very useful application of the horseless vehicle or 'auto-mobile' is the combination of a garden-roller and lawn-mower which has been introduced by Messrs Grimsley & Son of Leicester. The machine is driven by a two-cylinder petroleum engine, and works up to six horse-power. It is well adapted for large areas, such as parks, cricket-grounds, and the like, where the turf must be kept like velvet, and where the tread of an animal's hoofs—the drawback of the ordinary mowing-machine or roller—is objectionable.

HISTORY IN POTTERY.

An exhibition of a quaintly humorous as well as most interesting kind has recently been opened at the Bethnal Green Branch of the South Kensington Museum. This is a collection of pottery and porcelain illustrating popular British history, and is lent by Mr Henry Willett of Brighton. Mr Willett points out in the excellent catalogue which has been published that the history of a country may to a large extent be traced on its homely pottery, and that these articles—plates, mugs, vases, jugs, statuettes, tiles, models, plaques, &c., which may still be found on the mantelpieces of many cottage houses—are the records of popular events. The exhibition has no pretence to excellences of ceramic art, but has been made up of the homely articles referred to; and the classification is not of the usual chronological kind, but deals with the greater human interest which the

various objects present. Thus we find on the cases such titles as Military Heroes, Naval Heroes, Royalty and Loyalty, Noted Men, Costumes and Characters, Religion, Sporting, Conviviality, Crime, and Domestic Incidents. The collection is probably unique, and is extremely interesting to those who care to trace back some of the waves of popular feeling which have swept over the country during the two past centuries.

COMBATING DISEASE.

The Liverpool School of Tropical Disease, which was opened by Lord Lister only a few months ago, is doing good work. A special ward at the Southern Hospital has been set apart for the clinical instruction of the students; and the committee have definitely decided to send a commission to the West Coast of Africa to investigate the causes of malaria and other diseases common to that unhealthy seaboard. Special attention will be paid to the investigation of the theory that malaria is spread by the bite of the mosquito. Major Ross, who has had much experience in the investigation of disease in India, will be in command of the West African expedition, the results accruing from which may be of the most valuable kind.

EXPERIMENTS ON THE FERTILISATION OF PLANTS BY INSECTS.

Professor Plateau, of the University of Ghent, has, after considerable study, been making an exhaustive series of experiments with regard to the fertilisation of plants by means of insects visiting them. Until now it has always been supposed that the blossoms, anxious to attract the little visitors so necessary for their reproductive-ness, not only gave forth their sweetest perfume, but also attired themselves in their gayest and most alluring garb for the same purpose. But Professor Plateau has come to the conclusion that sight plays a comparatively small part in directing the insects' choice of flowers in comparison with scent. His experiments go to prove that they are quite indifferent to the colours of flowers they visit in search of honey, for he has covered over with bits of green leaves the gay petals of such brilliantly-hued flowers as the dahlia, but the insects still continued their visits. Nor were they influenced by the absence of colour caused by removing the corollæ of the bright lobelia, foxglove, or evening primrose. The professor also tried the experiment of artificially providing with honey certain vivid flowers, such as the geranium, which seldom or never attracts the bees, with the result that they were at once allured, passing over similar flowers not thus treated. He then tried the experiment of removing the honey-bearing parts of the flowers, leaving only the showy outer petals. The single dahlia was used as an example, but the flower was neglected until a single drop of honey was inserted, when they came as before.

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Oddly enough, even flowers formed of green leaves, when honeyed, were rifled of their sweets, but the bees and other insects were too clever to be tempted by artificial flowers even when provided liberally with honey.

GERMAN EXPLORATION OF BABYLON.

The Sultan of Turkey has just given permission to a German expedition to explore the ruins of Babylon. This exploring party sent out by the Government of Berlin will be directed by Dr Robert Koldewey. The examination of the ruins will last five years, and will doubtless be of immense value historically. The position of the ruins of Babylon was determined for the first time by Mr Layard, who was later the English ambassador to Constantinople. It will be remembered that it was he who discovered the ruins of

Nineveh, which were afterwards explored by French savants (1815-1854). Some years later Sir Henry Rawlinson went over the same ground. The last explorer was Rassam, a friend of Mr Layard. But all these researches were only partial, whereas the Germans, with their usual plodding thoroughness, intend to pursue their examination in a methodical and complete manner. Great sand-heaps along the banks of the Euphrates, where Babylon once stood, two days' march from Bagdad, show where the most important monuments lie. The greatest of these is called El Kass'r. It is said to cover the ruins of the palace of Nebuchadnezzar, where he spent the greatest part of his reign, and where Alexander the Great died. The Germans intend to begin their explorations by opening this sand-hill, and so settling the question.

THE VELVET MOUNTAIN.

AN ADVENTURE IN KAMCHATKA.



HOPE Porouquine will not see this; if he should I beg to apologise. But there is not much periodical literature at the hot springs of Tareinski, in Kamchatka; and, on the whole, I am inclined to take the risk. Porouquine is not one of your very large Russians—on the contrary, he is rather below the average height; but if you borrow his warm leathern coat—as I did—you will most likely have no difficulty in buttoning it over your chest, and will probably find the ends of the sleeves coming well over the knuckles. Muscles hardened by exercise and exposure to the consistency of triple brass, a constitution as sound as a bell, and a keen diamond-blue eye, set far back in an intent, weather-beaten face, indicate what he is—namely, a mighty hunter; for Porouquine has shot three hundred bears in his time, and kills and cures thousands of salmon yearly with his own hands. He also keeps a log shanty, called, I am led to understand, a 'hotel,' and probably the only one in the vast, silent peninsula of Kamchatka. Porouquine's Hotel has but poor accommodation. Be that, however, as it may, the red glow from its windows, accompanied by the howling of the sledge-dogs tethered in the yard, coming suddenly out of the darkness after a piercingly cold ride through the swampy forest at the head of the East Lake, was the most welcome thing we had come across for a long time.

I was travelling with my friend Zaporoff, a wealthy young Russian, who had served his year in the horse artillery as a gunner in the St Petersburg Military District, and was now going round the world in order to complete the education commenced in a university of European

Russia. In a very short time after our arrival we were both descending by a ladder through the floor of the bathing-house, built on piles at the edge of the largest hot spring, which formed a pool about the size of the ordinary horse-pond usually to be found in the village greens of far-away England.

Fate, and the orders of the Commander-in-chief on the China station, had brought me to this out-of-the-way, but extremely interesting, spot; for I was attached to one of Her Majesty's cruisers, which had parted company from the cruising squadron assembled at Hakodadi in the Northern Island of Japan, in order to patrol round the seal-rookeries of the Commander Islands, situated some three hundred miles east of the Kamchatka coast. Here international diplomacy has laid down the law that none going down to the sea in schooners or other craft shall do any seal-fishing within a belt of thirty marine miles from the coast, under peril of magazine-fire from the rifles of the Aleut guard ashore, or summary arrest by the British or Russian man-of-war cruising in the sacred zone of salt water, followed by an enforced appearance before the Consular Court at Yokohama or the judicial authorities at Vladivostok, as the case might be. Just at present it was the turn of the Russian man-of-war *Manreutz* to do the monotonous cruising round the islands, while we of H.M.S. *Desirée* were recruiting in the sunny harbour of Tareinski. As the ship had been in commission some time, and was in very fine order, my duties were not particularly onerous in harbour, and I had brought Zaporoff over as my guest from Petropaulski—which was about a dozen miles off across the bay—with the object of getting some bear-shooting; and it was in this way that we found ourselves sitting up to our

chins in the warm sulphurous waters of the hot springs, getting the cold out of our bones after fifteen hours of sailing, duck-shooting, wading, riding, and walking. The day had begun finely and well; but as twilight deepened the biting wind had piled up the scurrying clouds, and a searching drizzle, which froze as it fell, had warned us that if we wished to last through the night we must get under cover somewhere; and—delightful feeling!—here we were with Porouguine's hospitable shelter under our lee, with the prospect of a good supper, and appetites which the keen air and hours of fasting exercise had sharpened to that point when the sensation of hunger merges into that of voracity.

Porouguine has had three wives, the last of whom—a buxom, rosy, jolly, peach-skinned young woman—sits at the head of the table. Sixteen children have the quartette given to Holy Russia, varying from the dark-skinned, sallow, rather silent eldest son, who lives with his father and thinks of nothing but his rifle and pretty, newly-married wife, to the last-arrived pink baby, generally ensconced in her mother's comfortable arms, but now fast asleep, breathing softly, in its parents' bed, occasionally twitching its chubby little fists, and warmly wrapped with the skins of reindeer, bear, wolf, and big-horn sheep. The room seemed hot and stuffy after the open air, but that made little difference to the not very fastidious party gathering round the hunter's homely but hospitable table; and we were about to sit down to a smoking dish of reindeers' tongues, when an inner door opened, and we were joined by another couple, of whose presence, in the only private room of the house, we had not previously been aware.

The new-comers proved to be the very learned—and muscular—Doctor Koltzoff, of Moscow, who, with Madame Koltzoff—tall, elegant, handsome, and accomplished—was staying at the hot springs, resting after a scientific and exploring expedition in the central wilds of Kamchatka. The Doctor is a large-boned, bearded philosopher, with a benign face and a frame as stiff as oaken timber; his modest and sympathetic manner concealed—what I afterwards found out—the fact that he was probably the greatest living authority on the ethnology, geology, zoology, and botany of that part of Asia extending from Behring Strait to the Great Wall of China. A splendid white hound lumbered in after them, and, dropping with a thud on the floor behind their chairs, gave two or three noisy thumps with his tail, to wish us all greeting as friends of his master, like a canine gentleman as he was; then remained perfectly still, his head on his paws, except when he gave an occasional look up at the Doctor or madame, or when a more than usually savoury whiff from the table forced an oblique glance from his liquid eye.

We none of us spoke much at first, and it was

not until the reindeers' tongues had been disposed of and the next dish, consisting of stewed salmon's heads, was well on its way after the first—washed down by *kirin* beer from Japan, reindeer's milk, whisky, or *vodka*, as our various tastes suggested—that we commenced talking by asking the Doctor where he had picked up his magnificent hound. It appeared he belonged to a very rare breed employed by the Tchuktchis—an Eskimo tribe inhabiting the country situated between the north of Kamchatka and the west coast of Behring Strait—for hunting wolves in the bleak and inhospitable regions which extend from thence far inside the Arctic circle. The chief of the tribe, having been operated upon by the Doctor for carbuncle, had in return presented him with a pup of this valuable breed, which are very celebrated for their acuteness of scent; and the dog and his master had since been inseparable. A pasty of boiled salmon, with rice and cabbage, was succeeded by dishes of salmon roe, fishes' hearts, and reindeer-foot jelly; and, when we had finished the repast with a hot glass of tea in which floated slices of lemon, the Doctor gave us quantities of information about all parts of north-east Asia, but more particularly Kamchatka, with its virgin forests, volcanic ranges, and unfamiliar animals.

It appeared that the Doctor, on returning from his scientific mission, whilst passing through the Velvet Mountain district, a few hours' ride from the springs, had come upon a couple of Aleut hunters, one of whom was mortally wounded, as it proved, when returning from a bear-hunt. The injured man had been badly mauled about the face and head, besides having a broken wrist and a terrible compound fracture of the middle third of the thigh-bone, and was evidently dying. However, the Doctor gave the poor fellow a restorative, and did what he could to ease his agony; and directing the unhurt man to get some wood for a fire, while the remainder of his own expedition, whom he had outstripped, were still struggling through the brushwood, the Doctor sat down by his patient to watch the effect of the medicine. After a few laboured groans the unfortunate Aleut's eyes partly opened, and, though glazing fast, cleared again a little as the cordial began to take effect. He then muttered in his own language—with which Dr Koltzoff had become familiar in his prolonged researches—how, after a very successful shoot, he was coming down from the high mountainous regions to which the bears resort in summer, by a pass which he had not used before, near the Velvet Mountain (so called from its peculiarly black and glossy sheen when seen in certain lights), when, as he was walking down a steep path running along the face of a bold cliff and was nearing an angle, a huge beast, whitish and shaggy, had sprung out on him, hurled the pony he was leading into the depths below, and, as he

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expressed it, 'began throwing him about until all his bones were broken.' Doctor Koltzoff, much interested, tried to get more details; but poor Ivan's strength was nearly gone, and, gasping out some words again, emphasising the size of the beast's claws, and especially his fangs, gave a shivering gasp, and, as the Doctor put it, a fatal termination soon supervened. In that province of the Russian Empire little is thought of an Aleut hunter more or less, and a shallow trench with some heavy fragments of granite were soon all that concealed the body of poor Ivan.

The conversation, which had been hitherto chiefly monopolised by the Doctor, now took a more general turn, and I told him I had met one of his *confrères* in our navy, who had served in a ship that had taken part in the disastrous attack of the Anglo-French squadron on Petropaulski in 1854, and had made a search in this very locality for fossils, being an enthusiastic geologist. He had been much struck by the quantities he had come across in certain parts, particularly in a pass near a conical black mountain, of which he did not know the name, nor is it known as the Velvet Mountain on the Admiralty charts, the name being purely local.

Young Zaporoff was, I saw, now fast asleep, leaning against the logs forming the wall of the house, his pipe—which seemed to have been out a long time, for it felt quite cold when I took it from between his lips—still set in his clenched teeth; the ladies had gone, and old Porougine had got away promptly as soon as the conversation began to sound scientific, preceded by his son, who had turned in unhesitatingly directly after supper. Mrs Porougine had made up the fire in the Russian stove for the night, and by these portents the Doctor and I divined that it was time for us to go also; so, knocking out the ashes of our pipes, we woke Zaporoff up, and, with high hopes for the next day's shooting, we bade each other good-night, and were soon under the heap of soft skins covering our beds.

Beds in Kamchatka are not always as comfortable as they might be; and, either for that or some other reason, my sleep was fitful and disturbed. The scenes of the preceding day kept recurring more or less vividly to my imagination, and then fading away into snatches of oblivion, alternating with periods of intense wakefulness, in which the time seemed never-ending; the snoring in different keys that penetrated the thin partitions—for the hotel was practically one big room divided up by wooden screens—sounded more than usually aggressive; the air was smoky and flavoured with the aroma of cured salmon; and the watch under my pillow seemed to tick with a metallic ring. After some hours of this I could endure it no longer; and just as the day was breaking such a longing for fresh air came over me that I decided to turn out, and, finding the younger Porougine—who, I knew, had intended to

start before us—go on for our camping ground among the hills, leaving a message to tell old Porougine and Zaporoff what we had done. Putting our exceedingly small impedimenta in front of him, the young man and I started on our journey in the gray dawn, and, striking in a direction about a quarter of a circle away from our destination, the Velvet Mountain, went on at a steady jog-trot, bestriding the short-legged country ponies, with heads like hippopotami, legs short and columnar, and the climbing capacity of a squirrel. My guide was armed with a repeating .500 Winchester rifle, while I took a long .303 Lee-Metford, as I wanted to try the effect of small-bore, high-velocity bullets on big game. In order to make the bullets expand on striking, a cross had been cut on the nose with a very fine saw, and into the small slits thus made tallow had been poured, and with them I felt perfectly confident of stopping anything I was likely to meet.

We got along slowly, making our way through forests of fir and ash. Occasionally we would come across the track of an immense bear, with its deep claw-marks and shape of a clumsy and very broad human foot-sole; and again we would pass a river running black and smooth and cold, the banks sometimes slushy and sometimes gravelly, but always alive with salmon. Even the little rivulets, shallower than a salmon's draught of water, were swarming with fish, half-swimming, half-wriggling over the stones, and looking like streaks of burnished silver in the dim darkness of the gloomy morning. Now we began to bear away to our right, crossing the brawling brooks, which had little hollows of spongy ice adhering to the roots of the rusty-looking tufts of grass growing on their banks.

Working still more to our right, the scenery became rapidly wilder as we rode along, the ascent steeper, and the appearance of the craggy mountains to which we were drawing near more fantastic and grandiose.

Before leaving the last rivulet we had shot a couple of salmon in the shallow water, and after gutting them we had slung them, for future use, to the saddle of my 'universal provider.' On resuming our ascent the way became extraordinary and most wild in appearance; and yet, unaccountably, I seemed to have been over it before, which puzzled me, as in my present state of existence, at any rate, this was impossible. The general appearance of the rocky glen was now becoming sinister and awful. The sky gave signs of an approaching storm, and the animals and birds seemed to have disappeared. The path, which had been running between two high, steep hills covered with burnt-looking boulders, gradually clung more and more to the left-hand mountain, which slowly assumed a steeper slope, until, dwindling down to a ledge some four feet broad, it ran along the front of a cliff, and, rising

rapidly higher and higher, owing to its steep gradient, at length had an immense perpendicular descent to the right, while the cliff on the left towered up far away until its summit seemed lost among the dense clouds which were fast gathering and scudding before the wind, bringing down long straight lines of snow.

So threatening was the appearance of the weather that I more than once wished myself clear of the pass, and wondered if we should ever get out of it, as we were only in the forerunner of the storm; though even now the horses—strong, good, and patient little beasts that they were—seemed to have as much as they could do to face the squalls. It had never been very light; but, as the storm hung low and increased in might, the clouds began to change their tints from a dull purple-violet to a sombre black. The little light there was began to fade fast, and the distant ominous reverberations of thunder were tossed about in echoes from the massive sides of the mountains; while the flickering lightning, which had at first only appeared as a transparent, incandescent glare, illuminating the surfaces of the clouds from within, now tore in quick crooked ribbons between the clouds, as well as from them, to the earth, and the falling snow changed suddenly into sharp showers of hail.

The wind, which had decreased a little, now shifted more to our right front, or towards the cliff over our heads, which was a decided relief, as our horses had almost come to a standstill, and our bodies in front were covered with frozen snow, our beards were frozen, and I am convinced that nothing but our leathern clothing, furs, and high Russian boots kept us from being frozen to death. But worse was to come, for, in a sudden, fearful squall, the wind flew back right in our teeth, and blew with such terrific violence that it seemed to fall on us like a solid body, driving us helplessly to the earth. So tremendous was the roaring that, while the lightning in a manner surrounded us, the tongues of flame quivering in all directions, the thunder was inaudible, though we could feel the solid rock beneath us vibrating in unison with the chaos in the sky.

By this time, I need hardly say, I had dismounted and was crouching behind a friendly rock, my pony shivering with cold and terror beside me. I was afraid for young Porougine, who, when last I saw him, was just turning an angle of the cliff a short distance in front, which I hoped would give him a little shelter. But it was quite impossible for me to stir hand or foot to help him without risking the certainty of being blown into the abyss below. All I could do was to make my naturally big frame as small as possible in my cranny, and hope that the wind would exhaust its infernal violence before my strength gave out. How long the last supreme gust lasted I shall never know; but just when I thought that the

pressure and cold of the wind must end my life in some way, and in the very crisis of a yet more awful squall, the wind suddenly died away to a dead, unnatural calm—the 'eye of the storm,' as the Spaniards call it—the sky became blue, the sun shone, and nothing seemed to remain of the storm except a very hard bank of cloud all round, the distant droning of the wind, and the crashing of the trees far down in the valleys, as they were uprooted by the passage of the tornado. My ears, suddenly released from the confusion of noises, and perhaps from the removal of the rushing pressure of the wind, seemed unusually sharp, when in the almost painful silence succeeding the dismal uproar of the elements I heard three or four shots in quick succession, an awful scream of human pain, and a series of bestial, inarticulate sounds like very loud quick yapping, deepening into a long-drawn, groaning, horrible sort of laugh. A few stones fell over the edge of the path close to the angle in front of me, followed by Porougine's pony kicking and squealing in an agony of equine terror, as he appeared for an instant, and then plunged, struggling and turning over and over, into the depth below.

For an instant I was startled, the next thankful that, for a time at least, the period of helpless submission to the power of the wind was over, and the opportunity for action had clearly arrived. So, grasping my rifle, which lay on the ground beside me, I opened the 'cut-off,' felt the sight carefully to see that it was adjusted for close quarters, and hurried to the front to find out what had become of my companion. As I ran it instantly flashed across my mind why the spot had seemed so familiar, for I remembered our dear old naval surgeon's account of his search for fossils during the expedition of '54, and Doctor Koltzoff's story of the unfortunate Aleut hunter. I ran, and recollecting simultaneously his vivid description both of the incident and the scene of the tragedy, concluded we were very near the same spot, and felt great comfort in the thought of the ten excellent reasons lying ready in the magazine of my rifle to prevent any enemy, human or animal, from coming to close quarters. Poor Kotick Porougine was lying huddled up near the entrance of a rocky chasm that ran nearly horizontally inwards, close to the angle of the cliff near which I had last seen him, his rifle by him all bent up and twisted, with a thin thread of smoke curling up from the muzzle. A little smoke hung about in bluish layers, and the scent of fired gunpowder tainted the air. He was on his face, breathing heavily and giving an occasional low moan, but otherwise quite quiet and insensible; not very much blood came from him. I expected an immediate attack; but there was apparently nothing else in the cave, though of this I was not sure, as, although I could not see well after coming out of the light of day, I felt that most disagreeable sensation of a presence in the dark-

ness which is so unpleasant at the best of times. Striking a match and lighting a short piece of candle I had by chance put into my haversack—for in the heavy, calm air this was now quite easy—I placed it some little way farther in on the floor of the cave than we were, so as to be between us and whatever it was that had attacked Porougine, and then proceeded to examine him as closely as a rather limited acquaintance with surgery would permit. I saw that the worst injuries were a bad compound fracture of the thigh, a broken wrist, and some very grave injuries to the head and face. And again I remembered the story of Ivan, for I saw that these injuries were very similar to his. Keeping one eye on the inside of the cave, and my rifle close at hand, I poured a little spirit down the throat of the injured man, after turning him on his back; then, binding up his head, which was much torn, I set the wrist temporarily, and, covering him up, made him as comfortable as possible, and sat down alongside to watch. I had barely finished, when the wind came back with, if possible, more violence than before. The candle was blown out, and I was in absolute darkness—for the sky suddenly grew as black as pitch—alone with the poor, wounded, broken heap at my side, which depended upon me, his comrade, for help and protection.

Alone! Was I alone? Outside, the storm was again raging in furious melody, and Nature, as if in an epileptic fit, was striving to rend and shatter and destroy. Inside, two insignificant human beings—one almost at death's door, the other much battered and miserably cold, but both partly sheltered by the shape of the entrance from the blast and from the snow now falling, instead of hail, and piling up wherever it was not waltzing madly round before the eddies of wind at the mouth of the cave. Determined to protect the injured man from any further attacks, I lay down on my face, holding my rifle pointing to the interior of the cave, tried the action, felt the cartridge in the chamber of the weapon, and waited rather anxiously for the next move. I was hoping that the other two, as soon as the storm subsided, might come up and find us, when I thought the best plan would be for one to stay with me and watch Kotick Porougine, as I was inclined to believe that it would do him more harm than good to move him without medical assistance. The third might then go back for Dr Koltzoff and more assistance.

Then I remembered that the animal which had killed Ivan was probably the same which had disabled Kotick. What could it be? A bear, possibly? No, hardly that, as the description was so unlike that of a bear's attack. Bears don't throw a man about; nor were the sounds like anything I had ever heard or read of as emanating from the throat of a bear, or, in fact, any other

animal. It sounded more like the onslaught of one of the very large felines; but I was sure, or at any rate believed, that none existed in Kamchatka. Again I remembered the extraordinary stories of witchcraft which freely circulated among the superstitious Russians. Was it—could it be—something supernatural? The shocking injuries, the twisted rifle, indicated a power, an energy, greater, I fancied, than that of the tiger, the strongest of all the feline tribe. Man? No. Too much strength. At any rate, I should soon know now, for at some little distance beyond where my blown-out candle lay I saw the stealthy glow of two dull-red eyes, scintillating, intermittent as the lids closed over them occasionally. The eyes were more than four feet higher than mine, as I lay on the ground deadly still, so that if it were a beast of prey it was a very large one. Was it fancy, or could I hear the breathing of a huge animal? Probably fancy, as the turmoil of the storm raging outside was almost deafening. Deep down I felt my heart beating, for the awe of the supernatural was on me—that feeling most of us have experienced when alone after dark in some uncanny spot. How long this duel of the eyes lasted I cannot say; but at any rate, raising my rifle silently, I fired as nearly as the darkness would permit at them, and instantly I was aware of the same snapping, snarling, hideous howling as I had heard when poor Kotick screamed. Something huge rushed at me. I fancied I saw an immense pair of jaws, with long tusks in them, just below the eyes; a fearful roaring sound seemed to strike the drums of my ears. I saw a million stars, and then I remember no more.

When I came to myself I was again in bed at Porougine's Hotel, with my head singing like a tea-kettle, bandaged, and in great pain, good Doctor Koltzoff near me, and Zaporoff not far off. They told me that, thanks to the Doctor's grand hound, they had tracked us to the pass leading to the Velvet Mountain, where, at a very considerable height, they had found us close to where an avalanche, or perhaps a landslip, had taken place. We were lying side by side; my rifle was close to me, and on examination they discovered two cartridges had been fired; but Kotick's was gone. The landslip had uncovered the bedrock, which was of very old formation and full of the fossils of large mammalia. They mentioned nothing of any cave, but said they had found a large fossil close to my head, with some of my hair adhering to it, and, from the size and weight of the stone, if my skull had not been fractured it ought to have been—which I felt to be a doubtful compliment. Kotick was doing as well as possible; temperature very little above normal, pulse good, and so on, with other doctor's details. His poor little wife had gone nearly wild with grief when he came back, but, after the first outburst, had settled down as an excellent nurse. After a few

days, during which the medical officer of the *Desirée* was unremitting in his attention to young Porougine and myself, I was able to board that good ship at Tareinski anchorage, and the officer of the watch who met me as I went over the side said, 'We thought of you on the —th, as we knew you were among the mountains, and could see a well-marked thunderstorm going on there, with very brilliant lightning and detached shreds of cloud revolving round the central column with immense velocity. Were you in it?' 'Yes,' I answered, 'we did have a breeze, in which you may see I rather came to grief. Did you have anything here?' 'No; in fact, it was a very fine day, except for that local thunderstorm, which appeared to hang about the hills.' As I hate a fuss, nothing more was said at the time; but while breakfasting with my friend Donetski, a Russian priest of the Greek Church, he declared—and I believe even to this day declares—that we were attacked by a demon of the hills who had often destroyed hunters near the Velvet Mountain, and that the mark of the cross on the tip of my bullets enabled them to be effective. He said it was a well-known fact that Finnish sorcerers could at will raise a tempest sufficient to swamp a ship: how much more, therefore, could such a specimen of the art-magic as the one who had tried to kill us! He rounded off his remarks by mentioning that roubles, when properly applied to Church purposes, were the best counter-spell with which he happened to be acquainted. Old Porougine is a reticent man, but supported the Orthodox Church on the whole in the supernatural theory laid down by the priest.

Doctor Koltzoff is puzzled, and reserves his opinion; but the fact that struck him most was the remarkable similarity between the injuries of Ivan and Kotick to each other, and to those inflicted by a huge feline animal seizing and playing with its victim. Kotick does not seem to clearly remember what happened, and, I am glad to say, only shows by a slight limp what he has gone through. He stoutly maintains that he did not recognise that part of the pass in which we were caught by the storm, though when we first entered it he thought it was the pass he had always used previously. In this I am inclined to support him, as I rather imagine there were two landslips or avalanches, the first of which we could neither see nor hear because of the tornado, while the second swept away the cave and its formidable denizen, the latter being buried in the débris.

In the ordinary course of duty I was relieved and came home; and one night, when my friend Baiesault, of the Geological Society, was dining at my house, I told him the story, described the dim outline of the animal, or whatever it was, that had rushed at me, especially dwelling on the shape of the distended jaws and the size and shape of the

fangs, the latter of which had impressed me as very remarkable, and showed him the large and heavy fossil that had struck me on the head. He mused silently a short time, and then asked me to describe again minutely what I had seen; then, borrowing my coal-hammer, knocked off some large fragments from the fossil. Embedded between the eyes of what was clearly the fossilised head of some large carnivorous mammal was a *Lee-Metford .303 bullet, cross-cut at the tip*; another one had glanced from a fang and was buried in the palate. How it could possibly have got there was extraordinary, as the mouth was closed before he had used the hammer. 'That head,' said Baiesault, 'belongs to a long-extinct antediluvian animal, the Arctic or sabre-toothed tiger.'

Somewhat later I received a letter that was addressed in a very foreign-looking hand, and for which I had to pay extra postage. It was forwarded from Yokohama, where it had been posted by the captain of a Behring Sea sealing-schooner. It was from Kotick, written for him in English by an official of the Great Fur Seal Company at Petropaulski. He still thinks a great deal of a new rifle I sent him, and of pretty Olga, his wife; but also of something else, as he has asked me to be sponsor to his first boy. He is not even now at all sure what attacked him, but proposes in his future bear-hunts to steer clear of the Velvet Mountain.

TO THE POET THOMAS GRAY.

(Died 30th July 1771.)

SERENE and lovely Voice, too seldom heard!
Thy solitary note forsakes the crowd
Of eager singers, that with pipings loud
Fill the resounding Day. Like Night's fond bird,
Alone thou singest when the woods are stirred
With quiet-breathing airs; till, softly bowed,
The bright Moon slips her shoulder from a cloud
And leans, rapt listener to each melting word.

Most tender, melancholy, studious, sad!
Thou hadst no Mate to answer to thy call;
No tears to drop with thine, if thine did fall;
No laughter in thy home to make thee glad.
But on thy peaceful grave fit wreaths are hung,
Low sleeping where thy sweetest song was sung.

ADA BARTRICK BAKER.

* * TO CONTRIBUTORS.

- 1st. All communications should be addressed 'To the Editor, 339 High Street, Edinburgh.'
- 2d. For its return in case of ineligibility, postage-stamps should accompany every manuscript.
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